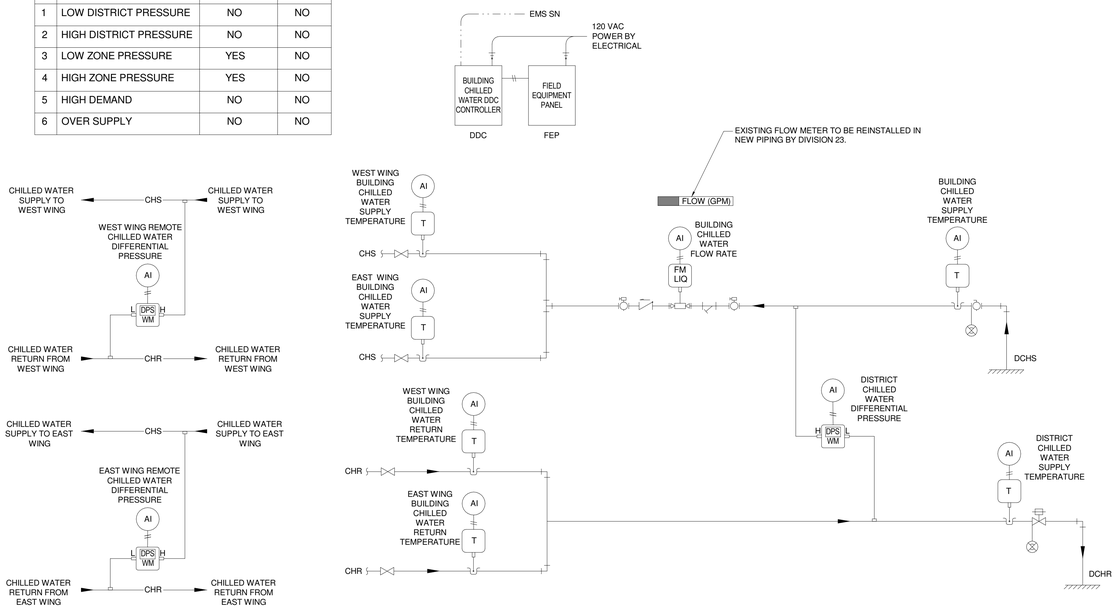
CHILLED WATER SYSTEM ALARMS			
#	DESCRIPTION	ON GRAPHIC	IN TABLE
1	LOW DISTRICT PRESSURE	NO	NO
2	HIGH DISTRICT PRESSURE	NO	NO
3	LOW ZONE PRESSURE	YES	NO
4	HIGH ZONE PRESSURE	YES	NO
5	HIGH DEMAND	NO	NO
6	OVER SUPPLY	NO	NO



1 CHILLED WATER CONTROL DIAGRAM
NOT TO SCALE

SEQUENCE OF OPERATION:

BUILDING ZONE DIFFERENTIAL PRESSURE SET POINT:
MODULATE THE BUILDING ZONE PRESSURE SET POINT BETWEEN A MAXIMUM SET POINT AND MINIMUM SET POINT AS REQUIRED TO MAINTAIN THE SECOND (ADJUSTABLE) MOST CRITICAL VALVE AT THE CRITICAL VALVE POSITION SET POINT, 95% (ADJUSTABLE). VALVES SHALL BE EXCLUDABLE FROM THE CRITICAL ZONE RESET CALCULATION FROM THE EQUIPMENT GRAPHIC AND FROM THE EQUIPMENT SUMMARY TABLE. THE CHILLED WATER PLANT OPERATION SHALL ADJUST ACCORDINGLY VIA ITS CURRENT SEQUENCE OF OPERATION TO SATISFY THE BUILDING ZONE PRESSURE SET POINTS.

PROVIDE A THERMOSTAT SATISFACTION INDEX THAT STATES WHAT PERCENTAGE OF THE THERMOSTATS ARE WITHIN 2 DEGREES (ADJ) ABOVE THE ACTIVE SET POINT.

ALARMS

1. LOW ZONE PRESSURE: ZONE DIFFERENTIAL PRESSURE < ZONE DIFFERENTIAL PRESSURE SET POINT - OFFSET (ADJUSTABLE)
2. HIGH ZONE PRESSURE: ZONE DIFFERENTIAL PRESSURE > ZONE DIFFERENTIAL PRESSURE SET POINT + OFFSET (ADJUSTABLE)

TRENDING GROUPS

PROVIDE THE FOLLOWING TREND GROUPS FOR THE IDENTIFIED TRENDS.
A. CRITICAL ZONE RESET: ZONE 1 AND ZONE 2 CRITICAL ZONE VALVE POSITIONS, ZONE PRESSURES, ZONE PRESSURE SET POINTS, AND THE ZONE DISTRICT PRESSURE.
B. TEMPERATURE: BUILDING ENTERING AND LEAVING TEMPERATURES, ZONE ENTERING AND LEAVING TEMPERATURES.

GENERAL NOTES:

1. CONTROL VALVES, FLOW METERS, THERMOWELLS, AND TAPS ARE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 23 IN LOCATIONS INDICATED BY THE CONTROL DIAGRAMS AND AS SPECIFIED.
2. ALL CONTROLLERS, ACTUATORS, SENSORS, SWITCHES, TUBING, AND POINTS INDICATED ON THE PLANS ARE PROVIDED AND INSTALLED BY DIVISION 23, UNLESS NOTED OTHERWISE. CONTROL VALVES AND THERMOWELLS ARE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 23. TRANSFORMERS ARE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
3. ALL POINTS INDICATED ON THE CONTROL DRAWINGS ARE NEW, PROVIDED BY DIVISION 23, UNLESS INDICATED OTHERWISE.
4. IF A COMPONENT IS DISABLED DUE TO MAINTENANCE SHUTDOWN OR A FAULT CONDITION , THE COMPONENT SHALL BE HIGHLIGHTED, OUTLINED, FLASH, OR CHANGE COLORS.
5. THIS GRAPHIC SHALL BE REPRESENTED ON THE BAS, INCLUDING THE RESULTS OF AS-BUILT CONDITIONS. THE GRAPHIC IS TO BE POPULATED WITH LIVE VALUES. SET POINTS SHALL BE ADJUSTABLE FROM THIS GRAPHIC AND LINKS SHALL BE PROVIDED TO TRENDING GROUPS. REFER TO SPECIFICATIONS FOR FURTHER GRAPHICAL REQUIREMENTS.
6. ATC CONTRACTOR SHALL TUNE ALL LOOPS AND TABLES FOR SMOOTH, STABLE OPERATION. NUMBERS INDICATED IN THESE DIAGRAMS ARE FOR A STARTING POINT ONLY. THESE SEQUENCES REPRESENT THE BASIC FUNCTION OF THE CONTROLS SEQUENCE AND ARE NOT ALL INCLUSIVE. THE ATC CONTRACTOR IS STILL REQUIRED TO PROVIDE, DEFINE, AND INDICATE ALL ALARMS, SET POINTS, AND FUNCTIONS REQUIRED TO ACHIEVE THE INTENT OF THE SEQUENCE AND MAINTAIN ALL EQUIPMENT MANUFACTURER'S REQUIREMENTS.
7. EQUIPMENT PROVIDED WITH CONTROLLERS (BOILERS, VARIABLE FREQUENCY DRIVES, ETC) SHALL COMMUNICATE DIRECTLY WITH THE BAS. ALL REQUIRED GATEWAYS AND ROUTERS SHALL BE PROVIDED WITH EQUIPMENT WHERE AVAILABLE. ALL AVAILABLE POINTS SHALL BE OBTAINED FROM THE EQUIPMENT CONTROLLER AND THE BAS SHALL PROVIDE SET POINTS, COMMANDS, ETC. TO THE EQUIPMENT PER THE SEQUENCE OF OPERATIONS.
8. EQUIPMENT SHALL HAVE DEDICATED GRAPHICS PER SPECIFICATIONS. ALL COMMUNICATED POINTS SHALL BE AVAILABLE IN A LIST FORMAT WITH COMPLETE DESCRIPTIONS OF THE POINT, INCLUDING ALARMS. THE OPERATOR SHALL NOT HAVE TO REFER TO OTHER DOCUMENTATION TO DETERMINE WHAT THE POINT IS.
9. VARIABLE FREQUENCY DRIVES SHALL INDICATE HAND, OFF, AUTO, AND BYPASS STATUS.
10. CONTROL VALVES SHALL BE SELECTED WITH PROPER AUTHORITY FOR THEIR GIVEN APPLICATION.
11. UPDATE FACILITY DASHBOARDS TO INCLUDE BUILDING.

Lead Architect:
Stocks-Mann Architects, PLC
401 W. Capitol, Suite 401
Little Rock, AR 72201
501-370-9207

Associate Architect:
Woods Group Architects
2200 Main Street
Little Rock, AR 72206
501-372-2230

Structural Engineer:
Bernhard TME
1 Allied Drive, Suite 2600
Little Rock, AR 72202
501-666-6676

MEP/Fire Protection Engineer:
Bernhard TME
1 Allied Drive, Suite 2600
Little Rock, AR 72202
501-666-6776

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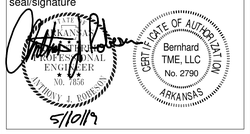

No.	Description	Date

UCA Housing Renovations - Phase 2
State Hall

University of Central Arkansas
Conway, Arkansas

SMA Project Number	1807
Date	05-10-2019
Phase	Construction Drawings
UCA Project Number	UCA-19-021

Contents

CONTROLS - HVAC

Sheet Number

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